CHICAGO DAILY NEWS 15 DECEMBER 1966 (16)

We Could Detect Space Bomb

By Charles Nicodemus
Of Our Washington Bureau

WASHINGTON — America's sophisticated intelligence systems will "almost certainly" be able to detect, in advance, any Soviet nuclear weapon put into orbit in violation of the newly proposed "outer space" treaty.

That will be the State Department's answer to any criticism from Capitol Hill that the new treaty—widely hailed by the administration—in reality has no "teeth" for enforcement.

State Department officials acknowledged Thursday that —although it's been little noted in the public acclaim that met the treaty—the space pact has no provision for inspection of orbiting satellites or space stations.

So there will be no direct method of telling whether the treaty's key prohibition, against orbiting "weapons of mass destruction," is being faithfully observed or not.

There have been recent rumblings that this point will be made in Senate debate.

ALSO UNNOTICED has been the fact that the treaty—while barring military tests and operations on "celestial bodies" such as the moon—includes no such ban in space itself.

This means there is nothing to stop any nation from testing and perfecting, in space, all the hardware needed for a nuclear weapons satellite bombardment system—as long as the nuclear weapon itself is not mounted in the satellite.

In answer, top State Department officials make these two points:

- "A variety of highly sophisticated American intelligence systems" makes it "a virtual certainty" that Russia could not now launch a satellite carrying a nuclear weapon without the United States detecting it.

While details of those intelligence sources are secret, it is known that they include information supplied by America's secret reconnaissance satellites; computer analysis of the "mass"—and thus the probable content—of foreign space vehicles; information supplied by radar, and by intelligence operatives monitoring Russian industrial activity and space launchings.

- This intelligence is so good, it is said, that Russia could not even make significant progress toward a complex satellite-borne nuclear bombardment program without the United States detecting it.

State Department spokesmen are confident that these points, and the obvious merit of the treaty's many far-ranging provisions on co-operation in space, will win strong support in the Senate, which must ratify the pact.

The 17-part treaty, drafted primarily by the United States and Russia and approved by the United Nations' 28-member Outer Space Committee, is expected to receive ratification shortly by the UN General Assembly — perhaps next week.

WASHINGTON STAR 15 DECEMBER 66 (16)

Peru Air Force Wants U.S. Jets

Peru was reported today to be interested in eventually acquiring for its air force six or seven supersonic jet planes—a type of aircraft the United States has so far declined to supply to Latin America.

Two Peruvian Air Force generals are headed here to survey the possibility of such purchases, but Peru's Ambassador Celso Pastor said "their visit is pretty much of a routine matter."

U. S. officials said Washington is not prepared at this time to supply supersonic jet planes, but they did not rule out the possibility that there might be discussion of purchase of such aircraft for long-term future delivery.

WASHINGTON STAR 15 DECEMBER 66 (16)

NASA in 'What Next?' Quandry

By WILLIAM HINES

At this stage of the moon race, the National Aeronautics and Space Administration is like a dog chasing a very slow car. The dog in time will catch its quarry, but hasn't the vaguest idea of what it will do next.

Two events are in point.

First, the space agency had a Dec. 1 deadline to report to a congressional committee on its plans for the years after Project Apollo reaches its climax in the manned lunar landing of 1968 or 1969. The night before the deadline, Deputy Space Administrator Robert C. Seamans made a grudging and rather devious admission that the date would not be met.

Second, within hours after Seamans' explanation that "a long letter" was going to Capitol Hill in lieu of a post-Apollo report, newsmen were notified of a two-day manned space flight briefing to take place at Houston today and tomorrow. Not one syllable out of 13 hours and 5 minutes of concentrated talk was scheduled on the topic, "After Apollo, What?"

NASA, like the girl in the old barroom ballad, is more to be pitied than censured for this silence. The agency has been led down the primrose path by a big-spending gentleman from Texas who suddenly seems to have lost interest in the now-shopworn ingenue.

NASA has no plans because the big-spending gentleman has permitted it to make none; aspirations yes, but plans no.

For more than two years Space Administrator James E. Webb has been warning that a break in continuity in space plans could be disastrous. Associate Administrator George E. Mueller has sounded the alarm that the big government-industrial organization is already beginning to fall apart in the absence of a firm post-Apollo program.

In the nature of things, a post-Apollo program (to NASA) means something big—not just more-of-same; something different. The agency's advance planners are looking yearningly at Mars in the 1980s or 1990s, and when men and Mars are mentioned in the same breath it means money—lots of money.

Dr. Jerome Wiesner, the late President Kennedy's science adviser, once publicly estimated the cost of a manned Mars expedition—in terms of both time and money—as 30 to 35 years and $100 billion. Wiesner was never particularly sold on space spectaculars, however, so his estimate may have been biased with pessimism.

But even the wildest space enthusiasts acknowledge that it would take 15 or 20 years and $50 billion to $60 billion to send a landing party to Mars. To meet the most favorable launching opportunity in this century (1985) would mean an immediate, significant boost in space spending.

And that—as everyone in the space business knows—is not going to happen.

Barring Mars, what looks interesting after Apollo? Colonizing the moon comes to mind, but there are serious scientific objections to wasting a lot of money on a permanent lunar base—especially when this money would necessarily come out of the so-called "science" kitty.

Astronomers already have said they would prefer a large telescope in earth orbit to one on the moon. The biggest enthusiasts for prolonged lunar exploration are the [illegible], Why?"

divided on the need for a lunar base.

As a contingency plan, NASA is working out ways to orbit a manned research laboratory without spending a lot of new development money. However, this plan is open to criticism on grounds that its functions will duplicate those of the military's spy-sky space station, MOL (manned orbiting laboratory).

By rational standards, the United States needs two space station programs about as badly as the dog needs the car he is chasing—but there seems a fair chance that both programs will go ahead.

Fortunately for NASA, the military program will be classified so secret that there will be no way of obtaining a valid public judgment about the necessity for several billions' worth of duplication.

Meanwhile, it is likely that the most promising area of space research—unmanned exploration of the universe—will continue to be starved. The astonishing results from Project Orbiter, including that unforgettable picture of the crater Copernicus, are being used for propaganda but apparently for little else.

A high official on the unmanned side of the space program made the point recently that man is always "in the loop" during a space mission. Sometimes he can do the job best in a spacesuit, and sometimes best in shirtsleeves at a console in Pasadena.

Scientists know they often get wrong answers in their experiments because they ask the wrong questions. In the context of astronaut space spectaculars after 1970, maybe the right question is not "After Apollo, What?" but

possible reconfiguration of the missile itself. The Navy stated that the studies were completed and Nitze's answer to Andrews seems to rule out any other platform for the Phoenix-AMCS than the F-111B.

In commenting on the weight problem, Admiral Sweeney said that further reduction "becomes a matter of cost effectiveness. The aircraft could be operated well at its present weight." He has testified that the catapults and arresting gear aboard carriers are capable of handling heavier aircraft than the F-111B and that the Navy will have to make no improvements on the deck structure to accommodate the plane.

Sweeney is impressed by the designed maintainability of the aircraft and its systems. Modularization and miniaturization are being used to the maximum, as well as built-in self-test. The E2A and A6A are complex weapons systems by comparison.

Management of the development and production programs has been a groundbreaking experience. Sweeney participated in the project management of the F6F, F7F and F8F Navy aircraft, and was even involved with the Bell P59 Airacomet and Northrop P79 in 1943 ("I wanted to tell my classmates at CalTech that I had seen an airplane that had no propellers. I couldn't, but they wouldn't have believed me anyway.").

The management problems involving the F-111B are unusual. "We've discovered so many unique things in this program that people confronted with future programs of bi-service development should take advantage of our experience and examine what we have done." Sweeney operates out of Wright-Patterson with two dozen officers in the various offices of the Systems Program Office. He also has help in Washington, some 80 officers and civilians of the Air and Ordnance Systems Commands, almost all of whom are part time workers on the F-111B.

The Air Force acts as executive agent for the Department of Defense in administering the overall F-111 program contract. The Air Force System Command's Aeronautical Systems Division, Wright-Patterson, acts as manager for both services (Maj. Gen. Zoeckler).

General Dynamics, through its Fort Worth Division, is F-111 program prime contractor. Grumman Aircraft Engineering Corp., as associate and principal subcontractor, assembles and flight tests the B's. Hughes Aircraft Company of Culver City, Calif., produces the Phoenix missile system under a separate direct contract with the Navy. Pratt and Whitney Aircraft Division of East Hartford, Conn., produces the TF-30 turbofan jet engines for the F-111As and the early Bs and is developing the P-12 version that will be installed in later Bs. P&W develops and produces all engines for the F-111 program by direct contract with the Navy.

There are 15 other firms under direct contracts from GD to supply major subsystems for the F-111s, including McDonnell Aircraft Corp. at St. Louis. McDonnell builds the two-man combination cockpit and [illegible] modules.

"We are dealing with a problem basic with industry," Sweeney said. "How do you coordinate major contractors when you have a contract with each. We must define more closely the areas of responsibility of contractors to each other. We must be certain that the engine, missile, control system, and aircraft capabilities and interface demands are compatible. If the specifications are definitive and the schedules realistic, then we have an aircraft that will fly on the target date we shoot for."

Many target dates have not been met. Although Sweeney says there has been no one pacing item, he does admit to having earlier difficulties in the development of the Phoenix missile system. "This is because we had too compressed a schedule. We are really working on an advanced system, learning as we develop. When we discovered the schedule was too compressed, we opened it up. Last month the Phoenix was tested successfully from an F-111B in its first live shot at the Navy's missile test range at Pt. Mugu, Calif."

That the planes—the As and the Bs—are being built and flying is a managerial miracle, considering the complexities of the contracting arrangements. It is also indicative of a superbly cooperative industrial-military team. The Navy, for instance, met with defeat when it attempted to develop and produce similarly the *Seahawk* project, which is now officially declared "dead" (although some valuable research and development was salvaged).

Best Government Contracting?

As a result of his F-111B experiences with fixed price R & D contracts, Sweeney has had some second thoughts on government contracting and has rediscovered a well-known fact: that not all contractors agree on the "proper" types of contracts the government should be awarding. Frequently fiscal realities force a contractor to delay decision on a given problem until he can determine the least expensive way of meeting specifications instead of using the most expedient solution, regardless of cost, in order to get the job done. This approach has a slowing action on research and development.

There are, too, many problems between prime contractor and subcontractors. "A good prime must be aware of progress or lack of progress in subcontracts," Sweeney said. "We should be aware of problem areas before they develop too far."

The flights of the F-111s so far have been successful. The military, the contractors, and the military/company test pilots who have flown the aircraft are delighted with the success of the variable sweep wing. A sample comment from veteran Grumman test pilot John Norris: "This is a wonderful way to build an airplane. It's like sitting on the front porch of a house, it flies so steady. There is almost no change in noise level flying from subsonic to supersonic. The idea of putting the wings where you want them is hard to beat." About a dozen Navy test pilots have flown the F-111B; their reactions are reported to be uniform: the plane is "easy to fly."

[illegible] craft made its first flight from Grumman's facility in Calverton, N.Y. Performance and carrier suitability tests on 4 and 5 will help the Navy decide on initial procurement. The P-12 will not be installed on 4 or 5, but is programmed for No. 6 and subsequent. Along with the added thrust of the P-12 engine, the Navy believes improvements in the drag of the airplane will be made.

Tests of the Phoenix missile on the F-111B have just been initiated with satisfactory results. These tests will continue on the early F-111Bs. This program will lead into the tests on airplanes 6 through 9 in 1968 and 1969. These are the crucial tests, along with carrier suitability trials, which will indicate fleet operability status.

One of the most widely discussed requirements of the 111B is its loiter capability. This is of critical importance for it is basic to the nature of the aircraft needed to fill its multi-purpose role aboard an aircraft carrier. The June report of the Bird Engineering Research Associates, Inc., stated that that capability has not yet been evidenced. Admiral Sweeney counters with his own opinion:

"We may not meet all the performance parameters we are aiming for but there is a good probability that the F-111B will provide the specified 'time on station.' I also believe that the F-111B will be a satisfactory home for the missile fire control system and that it will be a good launch platform for the Phoenix missile. When one considers the power and environmental control requirements of the missile and its fire control system, this is a noteworthy accomplishment."

What then is the prognosis for the F-111B? Congress—particularly Sen. John L. McClellan of the Permanent Investigations Subcommittee—is not wedded to the F-111B. The Senate approved a rider to the Defense Department's 1967 fiscal appropriation bill which barred the allocation of added money for the production of the B. The House permitted a miniscule amount (by comparison) for long lead-time production items so that if the aircraft wins eventual approval there will be no major slippage in schedule because of delays in development.

Barring unexpected failure in eventual performances of the aircraft, the F-111B has the support of Secretary Nitze whose declarative stamp of approval was not voiced loudly until last August.

The most persuasive argument that is voiced by Secretary Nitze is: the Navy does not now have—even on the boards—any aircraft that comes near the capabilities of the F-111B. And this capability is urgently needed by the Navy.

"The B's Phoenix missile system is the most advanced air-to-air weapons system in the world today," Admiral Sweeney said. He admits that enthusiasm for the B throughout the uniformed Navy is not widespread, nor particularly noticeable.

Still, it is the only such capability that the Navy has and is likely to have in the foreseeable future. And this, if for no other reason, might dictate the Navy's acceptance—reluctant or full—

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